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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,820	02/18/2004	Shinobu Sasaki	1080.1135	6805

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WASHINGTON, DC 20005

EXAMINER
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JEN, MINGJEN

ART UNIT	PAPER NUMBER
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3609

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/779,820

Applicant(s)

SASAKI, SHINOBU

Examiner

Ian Jen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/18/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/15/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 4, line 3, the phrase “the cell array has, over a plurality of locations, cell flags which are marks used to...” does not particularly and distinctly illustrate the analogy between marks and cell flags and does not fully clarify the meaning of marks.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 5 -6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Solhjell (US Patent NO. 7,123,444 B1)** in view of **Utusmi et al (US Patent NO, 5,967,339)**.

2. As for claim 1, Solhjell shows a library device comprising:

a cell array which consists of an array of multiple cells each of which contains one of multiple cartridges each containing a storage medium; (Abstract; Fig 1 as TYPE MAGAZINE 101 AND TAPE CASSETTES 102; Fig 2 as TYPE MAGAZINE 111 and TYPE CASSETTES 112; Column 1, lines 46 - 65),

media drives in which the cartridges are removably mounted and which access the storage medium contained in the cartridges; (Abstract; Fig 1 as TAPE DRIVE 100; Fig 2 as TAPE DRIVE 110 where TAPE DRIVE 110 connects TAPE CASSETTES 112),

a robot which transfers the cartridges between the cell array and the media drives; (Fig 2 as ROBOT 103; Column 1, lines 60 - 66 where robot 103 connects between cartridges; Abstract, see "a number of such cassettes can be employed in cassette library system, having a reader which receives the optical signals and which controls a robotic cassette selector by matching either the memory data or the cassette identification data embodied in the received optical signals to data entered into the reader identifying wanted data or a wanted cassette"; Fig 10; see Fig 10, 3 → 8 DECODER UNIT 180 as a robot which select the cartridges between the cell array and empower the media drive), a control board which controls operation of the library device, being equipped with a first memory which stores control information needed to control the operation of the library device, rewritably in a non-volatile manner (Fig 9; Column 11, lines 49 - Column 12, lines 26 as the non-volatile memory in control section), each of the cartridges contains the storage medium and

comprises a second memory which stores information rewritably in a non-volatile manner (Abstract, Fig 3 as MEMORY CHIP 120; Fig 4 as MEMORY 154; Column 3, lines 51 - 62; Column 5, lines 24 - 44 as a non - volatile memory resided in each of the cartridge), the robot is equipped with a memory reader/writer which accesses the second memory installed in the cartridge received by the robot (Fig 5: Column 7, lines 22 - 37, see RECEIVER 156, OPTICAL RECEIVER 160, TRANSMITTER 161 and LED 162).

Solhjell does not show, wherein one of the multiple cartridges is a diagnostic cartridge for the library device and the second memory installed in the diagnostic cartridge stores backup information which is the same as the control information stored in the first memory.

Utusmi et al shows, wherein one of the multiple cartridges is a diagnostic cartridge for the library device and the second memory installed in the diagnostic cartridge stores backup information which is the same as the control information stored in the first memory. (Figure 20 as DIAGNOSTIC CARTRIDGE 62; Column 17, lines 5-11; Column 17, lines 60-67 where accessor 7 reads bar code information and further verify the operation of the accessory 7 with diagnostic cartridge 62).

It would have been obvious to one of ordinary skill in the art to further modify the library device of Solhjell by adding the diagnostic cartridge of Utusmi in order to provide uninterrupted data supply and data protection for the library device

3. As for claim 5, Solhjell shows the library device according to claim 1, wherein the cartridges contain magnetic tape as the storage medium and the media drives access the

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magnetic tape contained in the cartridges.( Column 1, lines 61 - 66'; See Fig 1 where TYPE MAGAZINE 101 as cartridge, TYPE CASSETTES 102 as storage medium and TYPE DRIVE 100 as media drives )

4. As for claim 6, Solhjell shows the library device according to claim 1, wherein the second memory installed in the cartridge and the memory reader/writer installed on the robot communicate with each other wirelessly ( Fig 4, Fig 5 where MEMORY 154 connects with OPTICAL RECEIVER 160 AND LED 162 where the library controller unit connects to 3 → 8 DECODER UNIT using A0,A1,A2 channel wirelessly ; Column 9, lines 29 - lines 33 ).

Claim 2 - 4,7,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Solhjell in view of Utusmi et al as applied to claim 1 above, and further in view of Hanaoka et al (US Patent NO. 6,144,519).**

5. As for claim 2, Hanaoka et al further shows the library device according to claim 1, wherein: the first memory stores, as part of the control information, ID information which represents the library device; and upon power-up, the control board judges whether the ID information stored in the first memory represents the library device, (Column 2 , lines 38 - lines 48; See “ upon power -on starting, the value serving as reference data, which is stored in the floppy disk, is compared with that stored in the ROM”),  
and if the ID information stored in the first memory does not represent the library device, the robot takes the diagnostic cartridge out of the cell array, reads the backup information out of

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the second memory installed in the diagnostic cartridge and sends the backup information to the control board, and the control board writes the backup information received from the robot into the first memory (Column 2, lines 49 - lines 52; See "if not matched, the re-acquisition of the value of the cell address should be performed").

It would have been obvious to one of ordinary skill in the art to modify the library device of Solhjell in view of Utusmi et al by adding the memory device of Hanaoka et al in both cartridges and controllers in order to monitor data cartridge exchange and reading process between library device and robots.

6. As for claim 3, Utusmi et al further shows the library device according to claim 2, wherein: the library device comprises a serial label which contains ID information representing the library device and the robot comprises a first sensor which reads the serial label;(Column 17, lines 40 - 45; Column 17, lines 13 - lines 16 as bar code label). Utusmi does not show, upon power-up, the robot reads the serial label using the first sensor, extracts the ID information from the serial label, and sends the ID information to the control board, the control board checks the ID information received from the robot against the ID information stored in the first memory, and thereby judges whether the ID information stored in the first memory represents this library device.

Hanaoka shows, upon power-up, the robot reads the serial label using the first sensor, extracts the ID information from the serial label, and sends the ID information to the control board, and the control board checks the ID information received from the robot against the ID information stored in the first memory, and thereby judges whether the ID information

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stored in the first memory represents this library device (Column 2 , lines 38 - lines 48; See “power -on starting, the value serving as reference data, which is stored in the floppy disk, is compared with that stored in the ROM”; Column 2, lines 49 - lines 52; See “if not matched, the re-acquisition of the value of the cell address should be performed by conducting a measurement thereof by use of the accessor as an operation to be performed when data exception occurs”).

It would have been obvious to one of ordinary skill in the art to modify the library device of Solhjell in view of Utusmi et al by adding a serial label reader of Hanaoka et al in order to bring the bar code information of Solhjell from the library device to controller

7. As for claim 4, Utusmi et al further shows the library device according to claim 3, wherein: the cell array has, over a plurality of locations, cell flags which are marks used to recognize locations of the plurality of cells composing the cell array, ( Abstract, See” a positional correction relative-flag structure of the cartridge storage rack is equipped with a body section which is inserted into the cell of the storage rack to be brought closely and fixed into contact with the cell; Column 2, lines 9-11, See “ as shown in the upper section of FIG.30, when the relative flags are located at both sides of the storage rack 13” ; See Fig. 30) the robot comprises a second sensor to detect the locations of the cell flags, (Column 17, lines 5 - 10; See “ a reference flag 60 to be read out through a photosensor(photoelectric sensor) on the accessor 7 side for detecting the absolute position of the accessor 7”)



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and the robot takes the diagnostic cartridge out of the cell containing the diagnostic cartridge by moving according to the location information, found by the control board, about the cell containing the diagnostic cartridge (Column 17, lines 17- 20 where mentions the operation of diagnostic cartridge is substantially equal in configuration and weight to the cartridges; See Fig 3, cartridge 10).

Utusmi does not show, the first memory stores, as part of the control information, location information about the cell flags detected by the second sensor or location information about the cells corresponding to the cell flags detected by the second sensor; and upon power-up, if the two pieces of ID information do not match, the robot detects the locations of the cell flags using the second sensor and sends the location information about the cell flags to the control board, the control board finds location information about the cell containing the diagnostic cartridge based on the location information received from the robot,

Hanaoka shows, the first memory stores, as part of the control information, location information about the cell flags detected by the second sensor or location information about the cells corresponding to the cell flags detected by the second sensor(Column 15, lines 30 - lines 36 as the cell address translation table 82 stored in the accessor controller 28);

and upon power-up, if the two pieces of ID information do not match, the robot detects the locations of the cell flags using the second sensor and sends the location information about the cell flags to the control board, the control board finds location information about the cell containing the diagnostic cartridge based on the location information received from the robot(Column 2 , lines 38 - lines 48; See “ upon power -on starting, the value serving as

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reference data, which is stored in the floppy disk, is compared with that stored in the ROM. If not matched, the re-acquisition of the value of the cell address should be performed by conducting a measurement")

It would have been obvious to one of ordinary skill in the art to modify the library device of Solhjell in view of Utusmi et al to add the memory device of Hanaoka et al in both cartridges and controllers in order to monitor data cartridge exchange and reading process between library device and robots.

8. As for claim 7, Utusmi et al further shows the library device according to claim 3, wherein the serial label is a barcode label which uses a barcode as the ID information about the library device and that the first sensor reads the barcode recorded on the barcode label using a one-dimensional array of light-sensitive devices;(Column 17, lines 40 - 65; Column 17, lines 13 - lines 16 as bar code label; Column 17, lines 61 -66 as master label 65).

It would have been obvious to one of ordinary skill in the art to modify the library device of Solhjell by adding the bar code label of Utusmi et al in order to obtain feedback information from library device to controller.

9. As for claim 8, Utusmi et al further shows the library device according to claim 4, wherein the first sensor combines the second sensor (Column 17, lines 61 - 66; see " the diagnostic label 66 is read out by the bar coder reader of the accessory 7; Column 17, lines 5 - 12; See " a reference flag 61 to be read out through a photosensor on the accessory 7; where

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both bar code reader(first sensor) and photosensor( second sensor) are both integrated into accessor 7 ).

It would have been obvious to one of ordinary skill in the art to modify the library device of Solhjell by modify the first sensor and second sensor into one integration in order to enable the robot device to retrieve both flag and bar code information respect to the library device at once at one single position.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gniewek (US Pat. 5,287,459) shows the library device comprises a plurality of magnetic cartridge, controller and cartridge select robot.

Munemoto et al (US Pat. 5,495,371) shows the library device comprises a plurality of magnetic cartridge, controller and cartridge select robot.

Ishikawa (US. Pat. 5,644,445) shows the library device comprises a plurality of magnetic cartridge, controller and cartridge select robot.

Saiba (US Pat. 5,883,864) shows the library device comprises ID and flag information for each cartridge.

Nishijo et al (US Pat. 6,161,058) shows the library device comprises a plurality of magnetic cartridge, controller and cartridge select robot.

Nishijo et al (US Pat. 6,230,075) shows the library device comprises a plurality of magnetic cartridge, controller and cartridge select robot.

Kanetsuku et al (US. Pat. 6,449,223) shows the library device comprises diagnostic cell

Goodman et al (US. Pat 6,943,976) shows the library device comprises non volatile memory to store ID information.

Goodman et al (US. Pat 7,039,924) shows the library device comprise bar code scanner and non volatile memory.

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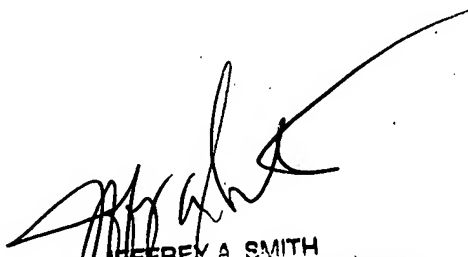
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian Jen whose telephone number is 571-270-3274. The examiner can normally be reached on Monday - Friday 8:00-5:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571 -272- 6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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